Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-19. (canceled)

20. (previously presented) An apparatus for configuring a local area network in a building for the transport of Ethernet-based data signals and analog signals across a wiring using frequency domain multiplexed analog and data signals, wherein the wiring includes at least first and second wiring segments each comprising at least two conductors, the apparatus comprising:

first and second ports each connected to a respective one of said first and second wiring segments;

first and second data filters each coupled to a respective one of said first and second ports, each having a data signal port operative to pass only data signals;

first and second modems each coupled to said data signal port of a respective one of said first and second filters, operative for bi-directional Ethernet data signal communication with a respective one of said first and second wiring segments;

at least one data connector operative for establishing a data signal connection with a data unit;

a multiport unit coupling said first and second modems to said at least one data connector for data transfer between said modems and said at least one data connector, said multiport unit being constituted by one of: a repeater; a bridge; and router;

first and second analog filters each coupled to a respective one of said first and second ports, each having a respective analog signal port, and each operative to pass only analog signals;

at least one analog connector operative for establishing an analog signal connection with an analog unit, the at least one analog connector being coupled to said analog signal port of at least one of said analog filters.

21. (previously presented) The apparatus according to claim 20, wherein the analog signals are analog telephone signals, and the analog unit is a telephone set.

22. (previously presented) The apparatus according to claim 20, wherein at least one of the wiring segments is a telephone wiring.

23. (previously presented) The apparatus according to claim 20, wherein the apparatus is at least partially housed within an outlet.

24. (previously presented) The apparatus according to claim 20, further comprising at least one power consuming component connected to at least one of the wiring segments and powered by a power signal carried by the at least one of the wiring segments.

25. (currently amended) The apparatus according to claim ~~25~~24, wherein the power signal is carried in a frequency spectrum distinct from the analog and data signals.

26. (previously presented) The outlet according to claim 21, wherein the power signal is an alternating current signal.

27. (previously presented) The apparatus according to claim 20, wherein:

the data signals carried over at least one of the wiring segments include a plurality of time division multiplexed data channels;

said apparatus further comprises a plurality of data connectors each operative for establishing a data signal connection with a data unit;

said data connectors are each coupled to the multiport unit; and

said apparatus is operative for coupling each data unit to a distinct data channel.

28. (previously presented) The apparatus according to claim 20, wherein:

the data signals carried over at least one of the wiring segments include a plurality of frequency division multiplexed data channels;

said apparatus further comprises a plurality of data connectors each operative for establishing a data signal connection with a data unit;

said data connectors are each coupled to the multiport unit; and

said apparatus is operative for coupling each data unit to a distinct data channel.

29. (previously presented) The apparatus according to claim 20, wherein said apparatus is attachable to a wall of a building.

30. (previously presented) The apparatus according to claim 20, wherein said analog signal ports of said first and second analog filters are coupled to one another.

31. (previously presented) A network for transporting data and analog signals, said network comprising:

first, second and third nodes; and

first and second wiring segments in a building, each comprising at least two conductors for simultaneously carrying frequency domain multiplexed data and analog signals, wherein:

said first wiring segment connects said first and second nodes together to form, with said first and second nodes, a first Ethernet bi-directional communication link;

said second wiring segment connects said first and third nodes together to form, with said first and third nodes, a second Ethernet bi-directional communication link;

each of said nodes is connectable to at least one data unit for coupling the connected data unit to at least one of said communication links;

each of said nodes is connectable to at least one analog unit for coupling the analog unit to the analog signals carried over at least one of said wiring segments;

said first node contains a coupling unit coupling said first and second communication links together; and

said coupling unit is one of: a repeater; a bridge; and a router.

32. (previously presented) The network according to claim 31, wherein at least one of said nodes is at least in part included in an outlet.

33. (previously presented) the network according to claim 31, wherein at least one of said nodes is included in a telephone outlet.

34. (previously presented) The network according to claim 31, wherein at least one of said wiring segments is constituted by wiring previously installed in the building.

35. (previously presented) The network according to claim 31, wherein at least one of the wiring segments is constituted by telephone wiring.

36. (previously presented) The network according to claim 31, wherein at least one of the analog signals is a telephone signal and at least one of the analog units is a telephone unit.

37. (previously presented) The network according to claim 31, wherein at least one of the nodes comprises a power consuming component connected to at least one of said wiring segments and powered by a power signal carried by said at least one of the wiring segments.

38. (previously presented) The network according to claim 37, wherein the power signal is carried in a frequency spectrum distinct from the analog and data signals.

39. (previously presented) The network according to claim 37, wherein the power signal is an alternating current signal.

40. (previously presented) The network according to claim 31, wherein:

the data signals carried over at least one of said wiring segments include a plurality of time division multiplexed data channels;

one of said nodes connected to said at least one of said wiring segments further comprises a plurality of data connectors each operative for establishing a data signal connection with a data unit;

said data connectors are each coupled to said coupling unit; and

said one of said nodes connected to said at least one of said wiring segments is operative for coupling each data unit to a distinct data channel.

41. (previously presented) The network according to claim 31, wherein:

the data signals carried over at least one of said wiring segments include a plurality of frequency division multiplexed data channels;

one of said nodes connected to said at least one of said wiring segments further comprises a plurality of data connectors each operative for establishing a data signal connection with a data unit;

said data connectors are each coupled to said coupling unit; and

said one of said nodes connected to said at least one of said wiring segments is operative for coupling each data unit to a distinct data channel.

42. (previously presented) The network according to claim 31, wherein at least one of said nodes is connected to an analog unit located external to the building.

43. (previously presented) The network according to claim 31, wherein at least one of said nodes is connected to a data unit located external to the building.

44. (previously presented) A network for transporting data and telephone signals, said network comprising:

first, second and third nodes; and

first and second wiring segments in a building, each comprising at least two conductors for carrying data signals; wherein:

said first wiring segment connects said first and second nodes together to form, with said first and second nodes, a first Ethernet bi-directional communication link;

said second wiring segment connects said first and third nodes together to form, with said first and third nodes, a second Ethernet bi-directional communication link;

said first node contains a coupling unit coupling said first and second communication links together;

said coupling unit is one of: a repeater; a bridge; and a router;

each of said nodes is connectable to at least one data unit for coupling the connected data unit to at least one of said communication links;

at least one of said nodes is coupled to a remote data unit external to the building;

at least one of said nodes is coupled to a remote telephone service unit external to the building; and

said network further transports at least one telephone signal between the remote telephone service unit and at least one telephone device coupled to at least one of said nodes.

45. (previously presented) The network according to claim 44, wherein at least one of said nodes is at least in part included in an outlet.

46. (previously presented) the network according to claim 44, wherein at least one of said nodes is included in a telephone outlet.

47. (previously presented) The network according to claim 44, wherein at least one of the wiring segments is constituted by wiring previously installed in the building.

48. (previously presented) The network according to claim 44, wherein at least one of said wiring segments is constituted by telephone wiring.

49. (previously presented) The network according to claim 44, wherein the telephone signals are digitized telephone signals.

50. (previously presented) The network according to claim 44, wherein at least one of the nodes comprises a power consuming component connected to at least one of said wiring segments and powered by a power signal carried by said at least one of said wiring segments.

51. (previously presented) The network according to claim 50, wherein the power signal is carried in a frequency spectrum distinct from the data and telephone signals.

52. (previously presented) The network according to claim 50, wherein the power signal is an alternating current signal.

53. (previously presented) The network according to claim 44, wherein:

the data signals carried over at least one of said wiring segments includes a plurality of time division multiplexed data channels;

one of said nodes connected to said at least one of said wiring segments further comprises a plurality of data connectors each operative for establishing a data signal connection with a data unit;

said data connectors are each coupled to said coupling unit; and

said one of said nodes connected to said at least one of said wiring segments is operative for coupling each data unit to a distinct data channel.

54. (previously presented) The network according to claim 44,

the data signals carried over at least one of said wiring segments include a plurality of frequency division multiplexed data channels;

one of said nodes connected to said at least one of said wiring segments further comprises a plurality of data connectors each operative for establishing a data signal connection with a data unit;

said data connectors are each coupled to said coupling unit; and

said one of said nodes connected to said at least one of said wiring segments is operative for coupling each data unit to a distinct data channel.

55. (new) A service outlet for coupling a data unit to a wired digital data signal and for coupling a service unit to an analog service signal, for use with a service wire pair installed in walls of a building, the service wire pair concurrently carrying a wired bi-directional digital data signal and an analog service signal carried over a service signal frequency band, using frequency division multiplexing, wherein the wired digital data signal is carried over a frequency band distinct from the service signal frequency band, wherein said service outlet comprises a single enclosure and, within said single enclosure:

a wiring connector for connecting to the service wire pair,

a first filter coupled to the wiring connector for passing only the analog service signal,

a standard service connector coupled to the first filter and connectable to the service unit for coupling the service unit to the analog service signal,

a second filter coupled to the wiring connector for passing only the wired digital data signal,

a service wiring modem coupled to the second filter for coupling the second filter to the wired digital data signal,

a standard data connector connectable to the data unit,

a transceiver coupled to the standard data connector for coupling packet-based bi-directional digital data to the data unit,

a multiport device consisting of one of a bridge, a router and a gateway coupled to said service wiring modem and said transceiver for coupling wired digital data contained in the wired digital data signal and the packet based digital data, and

a power supply coupled to the service wiring modem and the transceiver for powering the service wiring modem and the transceiver.

56. (new) The service outlet as in claim 55, wherein the wired digital data signal is xDSL based and the analog service signal is an analog telephone signal.

57. (new) The service outlet as in claim 55, wherein the standard data connector and the transceiver are operative for coupling to an Ethernet IEEE802.3 interface.

58. (new) The service outlet as in claim 55, further comprising a power connector connectable to a power source, and wherein the power supply is coupled to said power connector for power feeding the service wiring modem and the transceiver from the power source.

59. (new) The service outlet as in claim 55, wherein the service wire pair further carries a power signal, and the power supply is coupled to the wiring connector for coupling to the power signal and feeding at least one component in the outlet from the power signal.

60. (new) The service outlet as in claim 55, wherein the service wire pair is a telephone wire pair and the analog service signal is an analog telephone signal.

61. (new) The service outlet as in claim 55, for coupling an additional data unit to wired digital data contained in the wired digital data signal, wherein the wired digital data comprises distinct first and second data streams using time division multiplexing, and wherein the service outlet further comprises:

a second standard data connector connectable to a second data unit,

a second transceiver coupled to the second standard data connector and to the multiport device,

and wherein the first data unit is couplable only to the first data stream and the second data unit couplable only to the second data stream.

62. (new) A device for coupling a first data unit and a second data unit to first and second distinct Internet-based data streams carried over a single xDSL connection using time division multiplexing, for use with a telephone wire pair concurrently carrying xDSL and analog telephony signals using frequency division multiplexing, wherein the xDSL signal is carried over a high frequency band and the analog telephony signal is carried over a low frequency band, wherein said device comprises

a single enclosure and, within said single enclosure:

a telephone connector for connecting to the telephone wire pair,

a high pass filter coupled to the telephone connector for passing only the xDSL signal,

a xDSL modem coupled to the high pass filter for coupling to the xDSL signal,

a first standard data connector connectable to the first data unit,

a first data transceiver coupled with the first standard data connector for first Internet-based data stream communication with the first data unit,

a second standard data connector connectable to the second data unit,

a second data transceiver coupled with the second standard data connector for second Internet-based data stream communication with the first data unit, and

a multiport device consisting of one of a bridge, a router and a gateway coupled to said xDSL modem and said first and second data transceivers for coupling the xDSL signal and the first and second Internet-based data streams.

63. (new) The device as in claim 62 further couplable to an analog telephone device, the device further comprising:

a low pass filter coupled to said telephone connector for passing only the analog telephony signal, and a second telephone connector coupled to said low pass filter for coupling an analog telephone device to said analog telephony signal.

64. (new) The device as in claim 62 further couplable to a service wiring within a building carrying a bi-directional wired digital data signal and an analog service signal over an

analog service signal frequency band, using frequency division multiplexing wherein the bi-directional wired digital data signal is carried over a frequency band distinct from the service signal frequency band, wherein said device further comprises:

a wiring connector for connecting to the service wiring,

a second filter coupled to said wiring connector and operative to pass only the second bi-directional wired digital data, and

a service wiring modem coupled between said second filter and said multiport device.

65. (new) The device as in claim 64, wherein the service wiring is a telephone wiring and the analog service signal is a further analog telephony signal.

66. (new) The device as in claim 62, wherein the device is integrated within a service outlet.

67. (new) The device as in claim 62, wherein the telephone wire pair concurrently carries a power signal, and wherein the device is couplable to the power signal to be at least in part powered by the power signal.

68. (new) A device for coupling first and second bi-directional digital data signals, each carried over a distinct wiring, to each other and to a data unit, for use with a telephone wire pair at least in part in a building, the telephone wire pair concurrently carrying first bi-directional digital data using a xDSL signal containing the first bi-directional digital data and an analog telephone signal over a telephone signal frequency band, wherein the xDSL signal is carried over a frequency band distinct from and higher than the telephone signal frequency band, and with a service wire pair installed at least in part in walls within a building, the service wire pair concurrently carrying a second bi-directional digital data signal containing second bi-directional digital data and an analog service signal carried over an analog service signal frequency band, using frequency division multiplexing wherein the second bi-directional digital data signal is carried over a frequency band distinct from the analog service signal frequency band, said device comprising a single enclosure and, within said single enclosure:

a telephone connector for connecting said device to the telephone wire pair;

a high pass filter coupled to said telephone connector for passing only the xDSL signal;

a xDSL modem coupled to said high pass filter for coupling with the first bi-directional data signal;

a service wiring connector for connecting said device to the service wire pair;

a filter coupled to said service wiring connector for passing only the second bi-directional data signal;

a service wiring modem coupled to said filter for coupling with the second bi-directional data signal;

a multiport unit consisting of one of a bridge, a router and a gateway coupled to said xDSL modem and service wiring modem and operative to couple the first and second bi-directional digital data to each other;

a standard data interface coupled to the multiport unit for coupling a standard data interface signal to at least one of the xDSL signal and the second bi-directional digital data signal; and

a standard data connector coupled to the standard data interface and connectable to a data unit for coupling the standard data interface signal to the data unit.

69. (new) The device as in claim 68 further connectable to an analog telephone device and wherein the service wiring is a telephone wire pair and the service signal is an analog telephone signal, the device further comprising:

a low pass filter coupled to said telephone connector for passing only the analog telephone signal, and a second telephone connector coupled to said low pass filter for coupling an analog telephone device to said analog telephony signal.

70. (new) The device as in claim 68 further connectable to a service unit, the device further comprising:

a second filter coupled to said service wiring connector for passing only the analog service signal; and a service connector coupled to said second filter for coupling a service unit to said analog service signal.

71. (new) The device as in claim 68, wherein the device is integrated within a service outlet.

72. (new) The device as in claim 68, wherein the telephone wire pair concurrently carries a power signal, and

wherein the device is couplable to the power signal to be at least in part powered by the power signal.

73. (new) A device for coupling a first data unit and a second data unit to respective first and second distinct data streams, for use with a wiring concurrently carrying over the same wires a power signal and a digital data signal, the digital data signal comprising said first and second distinct data streams carried using time division multiplexing, wherein said device comprises a single enclosure and, within said single enclosure:

a wiring connector for connecting to the wiring,

a wiring modem coupled to the wiring connector for coupling to the digital data signal,

a first standard data connector connectable to the first data unit,

a first data transceiver coupled to the first standard data connector for data communication with the first data unit,

a second standard data connector connectable to the second data unit,

a second data transceiver coupled to the second standard data connector for data communication with the second data unit, and

a multiport unit coupled to said wiring modem and said first and second data transceivers for coupling only the first data stream to the first data transceiver and for coupling only the second data stream to the second data transceiver, wherein at least part of the device is coupled to the wiring connector to be powered by the power signal.

74. (new) The device as in claim 73 wherein the first and second data streams are packet-based.

75. (new) The device as in claim 73 wherein the multiport unit consists of one of a bridge, a router and a gateway.

76. (new) The device as in claim 73 wherein the power signal is Direct Current (DC).

77. (new) The device as in claim 73 wherein the power signal is Alternating Current (AC).

78. (new) The device as in claim 73 wherein the digital data signal is carried over a digital data signal frequency band and the power signal is carried over a frequency band distinct from the digital data signal frequency band, and the device further comprises:

a first filter coupled between the wiring connector and the wiring modem for passing only the digital data signal, and

a second filter coupled to the wiring connector for passing only the power signal to a part of the device.

79. (new) The device as in claim 73 wherein the wiring is a pre-existing service wiring at least in part in the walls of a building, and the service wiring further concurrently carries an analog service signal over an analog service signal frequency band, and the digital data signal is carried using frequency division multiplexing wherein the digital data signal is carried over a digital data frequency band distinct from the analog service signal frequency band.

80. (new) The device as in claim 79 further operative for coupling a service unit to the analog service signal, wherein the device further comprises:

a service filter coupled to the wiring connector for passing only the analog service signal,

a standard service connector coupled to the service filter and connectable to a service unit for coupling the service unit to the analog service signal.

81. (new) The device as in claim 80, wherein the service wiring is a telephone wire pair and the analog service signal is an analog telephone signal.

82. (new) The device as in claim 73, wherein the device is integrated within a service outlet.

83. (new) The device as in claim 73, wherein the first and second data streams are Ethernet based.

84. (new) An outlet for coupling a first data unit and a second data unit to respective first and second distinct data streams, for use with a wiring at least in part in walls of a building and carrying a digital data signal, the digital data signal comprising said first and second distinct data streams carried using time division multiplexing, wherein said outlet comprises a single enclosure and, within said single enclosure:

a wiring connector for connecting to the wiring,

a wiring modem coupled to the wiring connector for coupling to the digital data signal,

a first standard data connector connectable to the first data unit,

a first data transceiver coupled to the first standard data connector for data communication with the first data unit,

a second standard data connector connectable to the second data unit,

a second data transceiver coupled to the second standard data connector for data communication with the second data unit, and

a multiport unit coupled to said wiring modem and said first and second data transceivers for coupling only the first data stream to the first data transceiver and for coupling only the second data stream to the second data transceiver, wherein at least one of the wiring modem and the first and second data transceivers comprises power consuming components.

85. (new) The outlet as in claim 84 wherein the first and second data streams are packet-based.

86. (new) The outlet as in claim 84 wherein the multiport unit consists of one of a bridge, a router and a gateway.

87. (new) The outlet as in claim 84 wherein the wiring concurrently carries a power signal over the same wires, and

the power consuming components are coupled to the wiring connector to be powered by the power signal.

88. (new) The outlet as in claim 87 wherein the power signal is Direct Current (DC).

89. (new) The outlet as in claim 87 wherein the power signal is Alternating Current (AC).

90. (new) The outlet as in claim 87 wherein the digital data signal is carried over a digital data signal frequency band and the power signal is carried over a frequency band distinct from the digital data signal frequency band, and the outlet further comprises:

a first filter coupled between the wiring connector and the wiring modem for passing only the digital data signal, and

a second filter coupled between the wiring connector and the at least one of the power consuming components for passing only the power signal.

91. (new) The outlet as in claim 84, further comprising a power connector connectable to a power source, the power supply being coupled to said power connector for power feeding

said wiring modem and at least one of said transceivers from said power source.

92. (new) The outlet as in claim 84 wherein the wiring is a pre-existing service wiring at least in part in the walls of the building, and the service wiring further concurrently carries analog service signal over an analog service signal frequency band, and the digital data signal is carried using frequency division multiplexing wherein the digital data signal is carried over a digital data frequency band distinct from the analog service signal frequency band.

93. (new) The outlet as in claim 92 further operative for coupling a service unit to the analog service signal, wherein the outlet further comprises:

a service filter coupled to the wiring connector for passing only the analog service signal, and

a standard service connector coupled to the service filter and connectable to a service unit for coupling the service unit to the analog service signal.

94. (new) The outlet as in claim 93, wherein the service wiring is a telephone wire pair and the analog service signal is an analog telephone signal.

95. (new) The device as in claim 84, wherein the first and second data streams are Ethernet based.

96. (new) A device for coupling to a data signal, a power signal and a telephone signal carried by a network wiring in a building, said device comprising:

a wiring connector connectible to the network wiring;

a telephone connector coupled to said wiring connector and operative to couple a telephone unit to the telephone signal;

a data connector coupled to said wiring connector and operative to couple a data unit to the data signal; and

at least one power consuming component coupled to said wiring connector in order to receive, and be powered by, the power signal,

wherein the telephone signal and the data signal are concurrently carried over the same conductors of the network wiring in respectively different frequency bands, and said device further comprises a frequency selective means to separate the telephone and data signals.

97. (new) The device according to claim 96 wherein the power signal is concurrently carried over the same conductors of the network together with the telephone and data signals in a distinct power signal band.

98. (new) The device according to claim 96, wherein the power signal is part of the telephone signal.

99. (new) The device according to claim 96, wherein the power signal is carried by dedicated wires of the network wiring.

100. (new) The device according to claim 96, wherein the power signal is a direct current signal.

101. (new) The device according to claim 96, wherein the power signal is an alternating current signal.

102. (new) The device according to claim 96, wherein said device is at least partially integrated into an outlet.